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B7L(71) Applicant
Linke-Hofmann-Busch Waggon-Fahrzeug-Maschinen
GmbH (FR Germany),
Postfach 41 11 60, D-3320 Salzgitter 41, Federal Republic of
Germany(72) Inventors
Walter Schmidt,
Gunter Asche(74) Agent and/or Address for Service
G. F. Redfern & Co.,
Marlborough Lodge, 14 Farncombe Road, Worthing,
West Sussex BN11 2BT

(54) Covered goods wagon

(57) Each of the wagon's side walls comprises a plurality of slidable portions (2) which when in a closed position lie in a common plane. Each portion (2) can be shifted outwardly to a position that is parallel with the closed one and wherein the portion can be slid longitudinally along a lower rail. The portion (2) is shifted from one position to the other by a claw (6) engaging with the upper part of the portion and mounted on an axle (7) secured to a horizontally sliding rod (8). The claw is displaced outwardly when a shaft (3) is turned about its longitudinal axis, the claw being coupled to the shaft by a lever(s) (4) and a pivotally connected link(s) (5), which links may be attached to each other by a bridge plate (10).

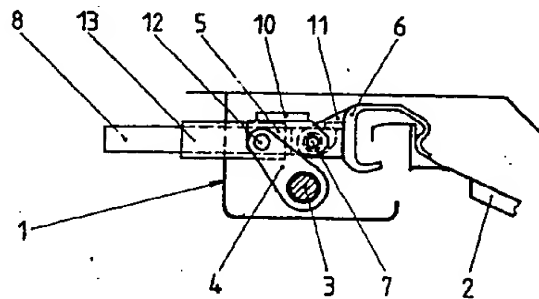


Fig. 1

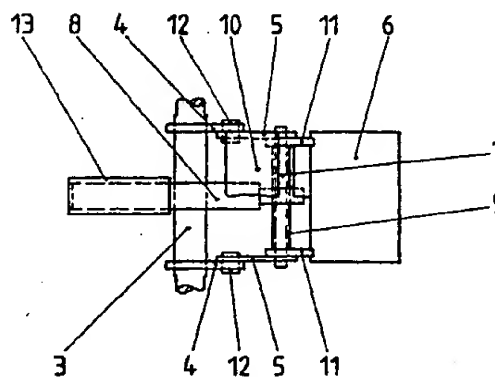


Fig. 3

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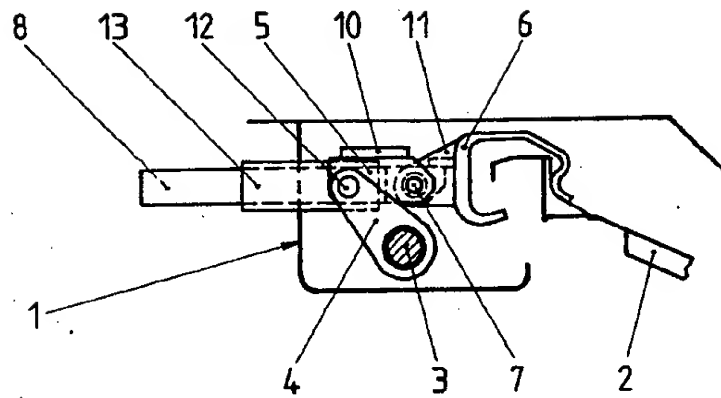


Fig. 1

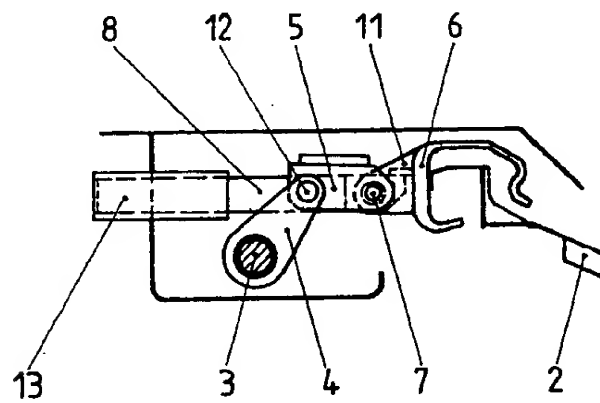


Fig. 2

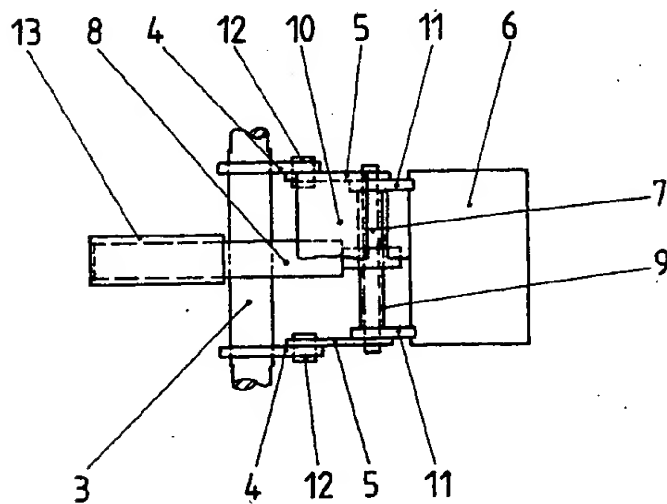


Fig. 3

SPECIFICATION

Covered goods wagon

5 The present invention relates to a covered goods wagon, the side walls of which each consist of at least two movable portions which, in the closed position, lie in a common plane, and which can be selectively moved transversely by an operating device into a sliding plane which is arranged in front of the common plane and parallel thereto, and in this plane can be displaced on a lower rail and by an upper guide in the longitudinal direction of the vehicle, the upper guide comprising a rotatable shaft with a control lever secured thereto and a claw which engages into the profiled upper side of the wall portion.

Such a goods wagon is described in German Utility Patent No. 81 23 714.6, in which the free arm of the lever engages from above into a guide rail and guides the wall portion both into the closing plane and the sliding plane, and in which the fixed lever arm is fastened to the shaft. The design and dimensions of the lever arms presuppose a constant structural height which is not available in certain applications. Neither is an exact guidance of the sliding door from the closing plane into the sliding plane and *vice versa* provided, since the free arm of the lever is, on the one hand, hinged to the fixed lever arm and, on the other hand, rests without a fixed point against the upper guide rail of the sliding wall portion. Consequently, in the event of structural tolerances or deformation of the sliding wall portion, consequent in use, in particular in the case of the upper guidance of the sliding wall portion, the leverage is unfavourably affected by the lever ratio, which is inevitably changed.

It is an object of the present invention to provide such a covered goods wagon having a lever construction such that with a small structural height, a controlled, clearly reproducible sliding motion of the sliding door from the closing plane into the sliding plane and *vice versa* can be achieved.

In accordance with the invention, there is provided a covered goods wagon, each of the side walls of which consists of at least two movable wall portions which in the closed position lie in a common plane and can be selectively moved transversely by an actuating device into a sliding plane which lies in front of the common plane and parallel thereto, and in this sliding plane can be displaced on a lower rail and by an upper guide in the longitudinal direction of the vehicle, said upper guide comprising a rotatable shaft with a control lever secured thereto and a claw which engages into the profiled upper side of the wall portion, wherein between the control lever and the claw, there is arranged a lever arm which, on the one hand, is linked to the control lever and, on the other hand, is mounted together with the claw on a horizontal axle running parallel to the rotatable shaft, a horizontally guided guide rod which acts on the axle being arranged at right angles thereto.

The invention will now be further described with

Figure 1 is a schematic side-sectional view through the upper guide of a covered goods wagon according to the invention, with the wall portion in the closed position;

70 *Figure 2* is a similar view to that of *Figure 1* with the wall portion in the open position; and

Figure 3 is a schematic plan view of the upper guide portion in the position shown in *Figure 2*.

On the upper loom 1 of a goods wagon for each movable wall portion 2, there is mounted a rotatable shaft 3 which can be actuated from below and which nonrotatably carries a control lever 4 which is linked by way of a lever arm 5 to a claw 6 which engages into the profiled upper side of the wall portion 2. The lever arm 5, which, on the one hand, is linked to the control lever 4 and, on the other hand, in common with the claw 6, is mounted on an axle 7 which runs horizontally and parallel to the shaft 3, is axially displaced by means of a guide rod 8 which acts on the axle 7 at right angles thereto. To allow the guide rod 8 to be mounted on the axle 7 located above the shaft 3, a rotatable jacket 9 which is permanently connected to the guide rod 8 is fitted over the axle 7.

90 In order to improve the stability of the upper guide, a double arrangement of control levers 4 and lever arms 5 is provided, as shown in *Figure 3*, the lever arms 5 being connected to one another by an upper bridge plate 10. The claw 6 is mounted at its rear by means of two outwardly directed arms 11 on the axle 7, the jacket 9 being mounted on the axle 7 in such a way that the guide rod 8 is located centrally between the lever systems.

100 In order to move the wall portion 2 out of the closing plane, as shown in *Figure 1*, into the sliding plane, as shown in *Figure 2*, the shaft 3 is rotated in the clockwise direction. Simultaneously with this rotary movement, the joint pin 12 which connects the control lever 4 to the lever arm 5, follows a part-circular path, as a result of which the lever arm 5 is pressed outwards and thus horizontally displaces the axle 7 (which occupies a more or less common horizontal plane with the joint pin 12) as a result of its connection to the guide rod 8 which moves in a sleeve 13. Because of the connection of the axle 7 to the claw 6, the latter is likewise pressed outwardly and, as a result of its own design and that of the upper side of the wall portion 2 additionally drives the latter.

CLAIMS

1. A covered goods wagon, each of the side walls of which consists of at least two movable wall portions which in the closed position lie in a common plane and can be selectively moved transversely by an actuating device into a sliding plane which lies in front of the common plane and parallel thereto, and in this sliding plane can be displaced on a lower rail and by an upper guide in the longitudinal direction of the vehicle, said upper guide comprising a rotatable shaft with a control lever secured thereto and a claw which engages into the profiled upper side of the wall portion

wherein between the control lever and the claw, there is arranged a lever arm which, on the one hand, is linked to the control lever and, on the other hand, is mounted together with the claw on a horizontal axle running parallel to the rotatable shaft, a horizontally guided guide rod which acts on the axle being arranged at right angles thereto.

2. A covered goods wagon as claimed in Claim 1, wherein said shaft is mounted beneath said guide rod.

3. A covered goods wagon as claimed in Claim 1 or Claim 2, wherein a jacket is rotatably fitted on said axle, said guide rod being connected to said jacket.

4. A covered goods wagon as claimed in any one of Claims 1 to 3, wherein at least two control levers are provided spaced from one another by their mounting on said shaft, each of said control levers being pivotally connected to respective lever arms, the other ends of said lever arms, together with said claw, being connected to said horizontally arranged and horizontally guided axle which runs parallel to said shaft, the attachment of said claw to said axle being effected by at least two arms projecting from the rear of the claw.

5. A covered goods wagon as claimed in Claim 4, wherein said lever arms are connected at the upper sides thereof by a bridge plate.

6. A covered goods wagon, substantially as hereinbefore described with reference to and as illustrated in the drawing.